

What is claimed is:

1. A washing machine comprising:  
a housing;  
a tub installed in the housing to store water, the tub having at least one opening and at least one pipe connected to the at least one opening;  
a drum rotatably installed in the tub to hold a laundry therein for washing; and  
a valve assembly installed at the opening to selectively cut off the at least one pipe to prevent foam produced in the drum and the tub from leaking outside via the opening.

2. The washing machine as claimed in claim 1, wherein the at least one opening and the at least one pipe are an inlet opening for supplying the water to the tub from an external water supply source and an inlet pipe connected to the inlet opening, respectively.

3. The washing machine as claimed in claim 1, wherein the at least one opening and the at least one pipe are a ventilation opening for allowing an external air to flow in the tub and a ventilation pipe connected to the ventilation opening, respectively.

4. The washing machine as claimed in claim 1, wherein the valve assembly comprises a valve installed in the opening to float on the foam.

5. The washing machine as claimed in claim 1, wherein the valve assembly further comprises a guide formed in the opening to guide a movement of the valve.

25           6.       The washing machine as claimed in claim 1, wherein the valve assembly is  
26       formed at the opening to be installed in an extension pipe connected to the at least one pipe.  
27

28           7.       The washing machine as claimed in claim 4, wherein the valve is smaller  
29       than the opening and is greater than a diameter of the pipe.  
30

31           8.       The washing machine as claimed in claim 1, wherein the pipe has a pipe  
32       diameter partially reduced in the vicinity of the opening to be stably cut off by the valve  
33       assembly.  
34

35           9.       The washing machine as claimed in claim 1, wherein the pipe comprises a rib  
36       extending inward from an inner circumference.  
37

38           10.      The washing machine as claimed in claim 1, wherein the pipe is a corrugated  
39       or bellows pipe having a multitude of folds.  
40

41           11.      The washing machine as claimed in claim 4 or claim 5, wherein the valve  
42       comprises a floating body having a concave surface.  
43

44           12.      The washing machine as claimed in claim 5, wherein the valve comprises a  
45       shaft part extending from a bottom of the floating body to be guided by the guide.  
46

47           13.      The washing machine as claimed in claim 11, wherein the floating body is a  
48       semi-spherical shell.

49  
50           14.     The washing machine as claimed in claim 11, wherein the floating body  
51 further comprises a flange horizontally extending from an edge.

52  
53           15.     The washing machine as claimed in claim 12, wherein the shaft part is a  
54 hollow shaft.

55  
56           16.     The washing machine as claimed in claim 12, the guide comprising:  
57           a hub holding the shaft part movably to support the bottom of the floating body; and  
58           a plurality of ribs extending between an outer circumference of the hub and an inner  
59 circumference of the opening.

60  
61           17.     The washing machine as claimed in claim 16, wherein each of the ribs is  
62 uniform in height in the vicinity of the inner circumference of the opening but gradually  
63 increases in height in the vicinity of the outer circumference of the hub.

64  
65           18.     The washing machine as claimed in claim 12, wherein the valve further  
66 comprises a first elastic member provided on an outer circumference of the shaft part to lie  
67 between the guide and the floating body.

68  
69           19.     The washing machine as claimed in claim 18, wherein a buffer protrusion is  
70 formed at a lower end of the first elastic member.

71  
72           20.     The washing machine as claimed in claim 12, wherein an outer

73 circumference of the shaft part is covered with a second elastic member.  
74

75 21. The washing machine as claimed in claim 18 or claim 20, wherein the first  
76 elastic member is built in one body of the second elastic member.  
77

78 22. The washing machine as claimed in claim 16, wherein an inner  
79 circumference of the hub is tapered by a predetermined angle.  
80

81 23. The washing machine as claimed in claim 16, wherein an inside diameter of  
82 the hub gradually increases.  
83

84 24. The washing machine as claimed in claim 16, wherein an inside diameter of  
85 the hub gradually increases toward a top.  
86

87 25. The washing machine as claimed in claim 16, wherein an outside diameter of  
88 the shaft part gradually increases to be brought contact with an inside diameter of the hub.  
89

90 26. The washing machine as claimed in claim 16, wherein an outside diameter of  
91 the shaft part gradually increases toward a top.  
92

93 27. The washing machine as claimed in claim 4 or claim 5, wherein the valve  
94 assembly further comprises a plate member installed under the valve to cut off the opening  
95 partially.  
96

97           28.     The washing machine as claimed in claim 27, wherein the plate member is a  
98 disc type.

99  
100           29.     The washing machine as claimed in claim 27, wherein a size of the plate  
101 member is equal to or greater than a cross-section of a lower end of the valve.

102  
103           30.     The washing machine as claimed in claim 27, the plate member comprising:  
104 at least one leg extending vertically from a bottom; and  
105 a hook provided at a tip of the leg to be caught on a portion of the guide.